

Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-198. (Canceled)

199. (Currently amended) A pharmaceutical composition comprising:

(i) a substrate in the form of a bilayer membrane surface comprising:

at least one first surface-building amphipathic substance selected from lipids and lipoids,
~~lipid-like materials and combinations thereof~~ capable of forming membrane bilayers; and

at least one second surface-destabilising amphipathic substance selected from surface-
active substances,

in a liquid medium, wherein the second substance is more soluble than the first substance
in the liquid medium, ~~surfactants and combinations thereof~~;

and

(ii) at least one third amphipathic substance selected from insulin, interferon, interleukin,
immunoglobulin and hormone;

the molecules of the third substance associated with the substrate;

wherein the substrate and the at least one third substance do not have opposite charges; and
wherein the composition is obtainable by steps comprising

selecting the at least one first and the at least one second substance,

combining the first and second substances in contact with the liquid medium to form
substrates,

selecting the at least one third substance,

addition of the at least one third substance to the substrates preformed by the at least one
first and the at least one second substance; and

allowing the molecules of the third substance to associate with the substrate ~~formed by~~
~~the at least one first and the at least one second substance.~~

200. (Currently amended) The composition of claim 199 wherein the association of
the third substance with the substrate is assisted by agitation, mixing, or incubation, provided

~~that such treatment does not break up the preformed surfaces, substrates are in the form of membrane surfaces.~~

201. (Previously presented) The composition of claim 199 wherein the substrate formed by the first and second substance carry a net electric charge and wherein the third substance carries a net electric charge, the molecules of the third substance associating with the substrate, and the net charge density of the substrate and the net charge of the molecules associating with the substrate having the same sign.

202. (Previously presented) The composition of claim 199 wherein the substrates formed by the first and second substance are negatively charged and wherein the third substance is negatively charged.

203. (Previously presented) The composition of claim 199 wherein the first substance and the second substance differ in solubility on the average at least 10-fold.

204. (Previously presented) The composition of claim 199 wherein the first substance and the second substance differ in solubility on the average at least 100-fold.

205. (Previously presented) The composition of claim 199 wherein the first substance is selected from the group consisting of phosphatidylcholines, phosphatidylethanolamines, phosphatidylglycerols, phosphatidylinositols, phosphatidic acids, phosphatidylserines, sphingomyelins, sphingophospholipids, glycosphingolipids, cerebroside, ceramidpolyhexosides, sulphatides, sphingoplasmalogenes, and gangliosides.

206. (Previously presented) The composition of claim 199 wherein the surfactant is selected from the group, consisting of long-chain fatty acids or long-chain fatty alcohols, alkyltrimethyl-ammonium salts, alkyl dimethyl-ammonium salts, alkylmethyl-ammonium salts, alkylsulphate salts, monovalent salts of cholate, deoxycholates, glycocholates, glycodeoxycholates, taurodeoxycholates, taurocholates, acyl dimethyl-aminoxides, alkanoyl

dimethyl-aminoxides, dodecyl dimethyl-aminoxide, alkyl-N-methylglucamides, alkanoyl-N-methylglucamides, N-alkyl-N,N-dimethylglycines, 3-(acyldimethylammonio)-alkanesulphonates, N-acyl-sulphobetaines, polyethylen-glycol-octylphenyl ethers, nonaethylen-glycol-octylphenyl ether, polyethylene-acyl ethers, nonaethylen-dodecyl ether, polyethyleneglycol-isoacyl ethers, octaethyleneglycol-isotridecyl ether, polyethylene-acyl ethers, octaethylenedodecyl ether, polyethyleneglycol-sorbitane-acyl esters, polyethylenglykol-20-monolaurate (Tween 20), polyethylenglykol-20-sorbitan-monooleate (Tween 80), polyhydroxyethylene-acyl ethers, polyhydroxyethylene-lauryl ethers, polyhydroxyethylene-myristoyl ethers, polyhydroxyethylene-cetylstearyl ethers, polyhydroxyethylene-oleoyl ethers, polyhydroxyethylen-4, or 6, or 8, or 10, or 12-lauryl ethers (Brij series), polyhydroxyethylen-8-stearate (Myrj 45), polyhydroxyethylen-laurates, polyhydroxyethylen-oleates, polyethoxylated castor oil 40 (Cremophor EL), sorbitane-monoalkylates, sorbitane-monolaurate, acyl-N-methylglucamides, alkanoyl-N-methylglucamides, decanoyl-N-methylglucamide, dodecanoyl-N-methylglucamide, alkyl-sulphates, alkyl sulphate salts lauryl-sulphate, oleoyl-sulphate, sodium deoxycholate, sodium glycodeoxycholate, sodium oleate, sodium taurate, fatty acid salts, sodium elaidate, sodium linoleate, sodium laurate, lysophospholipids, n-octadecylene-glycerophosphatidic acid, octadecylene-phosphorylglycerol, octadecylene-phosphorylserine, n-acyl-glycero-phosphatidic acids, lauryl glycero-phosphatidic acids, oleoyl-glycero-phosphatidic acid, n-acyl-phosphorylglycerol, lauryl-phosphorylglycerol, oleoyl-phosphorylglycerol, n-acyl-phosphorylserine, lauryl-phosphorylserine, oleoyl-phosphorylserine, n-tetradecyl-glycero-phosphatidic acid, n-tetradecyl-phosphorylglycerol, n-tetradecyl-phosphorylserine, corresponding palmitoeloyl-, elaidoyl-, vaccenyl-lysophospholipids, and surface-active polypeptides.

207. (Previously presented) The composition of claim 199 wherein the at least one first substance is a phosphatidylcholine and/or a phosphatidylglycerol and the at least one second substance is a lysophospholipid, a lysophosphatidic acid, methylphosphatidic acid, lysophosphatidylglycerol, lysophosphatidylcholine, a partially N-methylated lysophosphatidylethanolamine, a monovalent salt of cholate, deoxycholate, glycocholate, glycodeoxycholate, or a sufficiently polar sterol derivative, a laurate, myristate, palmitate, oleate,

palmitoleate, elaidate or other fatty acid salt and/or a Tween-, a Myrj-, or a Brij-surfactant, or a Triton, a fatty acid sulphonate, -sulphobetaine, -N-glucamide or -sorbitane surfactant.

208. (Previously presented) The composition of claim 199 wherein the third substance is a hormone.

209. (Previously presented) The composition of claim 199 wherein the third substance is insulin selected from human recombinant insulin or humanized insulin.

210. (Previously presented) The composition of claim 199 wherein the third substance is interleukin suitable for the use in humans or animals selected from the group comprising IL-2, IL-4, IL-8, IL-10, and IL-12.

211. (Previously presented) The composition of claim 199 wherein the third substance is interferon selected from interferon alpha, beta and gamma.

212. (Previously presented) The composition of claim 199 wherein the third substance is immunoglobulin (Ig) selected from IgA, IgG, IgE, IgD or IgM.

213. (Previously presented) The composition of claim 208 wherein the hormone is calcitonin.

214. (Previously presented) The pharmaceutical composition of 199 wherein the composition is obtained by steps comprising:

- selecting the at least one first and the at least one second substance,
- combining the first and second substances in contact with the liquid medium to form the substrate,
- selecting the at least one third substance,
- allowing the molecules of the third substance to associate with the substrate formed by the at least one first and the at least one second substance.

215. (Currently amended) A method of producing a pharmaceutical composition comprising;

- selecting at least one first and at least one second substance,
- combining the first and second substances in contact with ~~at the~~ liquid medium to form substrates in the form of bilayer membrane surfaces,
- selecting the at least one third substance,
- adding the at least one third substance to the substrates preformed by the at least one first and the at least one second substance,
- ~~allowing the molecules of the third substance to associate with the substrate formed by the at least one first and the at least one second substance, wherein;~~
- at least one first surface-building amphipathic substance selected from lipids, lipid-like materials and lipoids combinations thereof capable of forming membrane bilayers;
- ~~the at least one second surface-destabilising amphipathic substance selected from surface-active substances that are more soluble in the liquid medium than the first substance; surfactants and combinations thereof; and~~
- at least one third amphipathic substance selected from insulin, interferon, interleukin, immunoglobulin and hormone; and
- wherein said substrate and said at least one third substance do not have opposite charges.

216. (Previously presented) The method of claim 215 wherein the first substance is selected from the group consisting of phosphatidylcholines, phosphatidylethanolamines, phosphatidylglycerols, phosphatidylinositols, phosphatidic acids, phosphatidylserines, sphingomyelins, sphingophospholipids, glycosphingolipids, cerebrosides, ceramidpolyhexosides, sulphatides, sphingoplasmalogenes, and gangliosides.

217. (Previously presented) The method of claim 215 wherein the surfactant is selected from the group, consisting of long-chain fatty acids or long-chain fatty alcohols, alkyltrimethyl-ammonium salts, alkyldimethyl-ammonium salts, alkylmethyl-ammonium salts, alkylsulphate salts, monovalent salts of cholate, deoxycholates, glycocholates,

glycodeoxycholates, taurodeoxycholates, taurocholates, acyl dimethyl-aminioxides, alkanoyl dimethyl-aminioxides, dodecyl dimethyl-aminoxide, alkyl-N-methylglucamides, alkanoyl-N-methylglucamides, N-alkyl-N,N-dimethylglycines, 3-(acyldimethylammonio)-alkanesulphonates, N-acyl-sulphobetaines, polyethylen-glycol-octylphenyl ethers, nonaethylen-glycol-octylphenyl ether, polyethylene-acyl ethers, nonaethylen-dodecyl ether, polyethyleneglycol-isoacyl ethers, octaethyleneglycol-isotridecyl ether, polyethylene-acyl ethers, octaethylenedodecyl ether, polyethyleneglycol-sorbitane-acyl esters, polyethyleneglykol-20-monolaurate (Tween 20), polyethyleneglykol-20-sorbitan-monooleate (Tween 80), polyhydroxyethylene-acyl ethers, polyhydroxyethylene-lauryl ethers, polyhydroxyethylene-myristoyl ethers, polyhydroxyethylene-cetylstearyl ethers, polyhydroxyethylene-oleoyl ethers, polyhydroxyethylen-4, or 6, or 8, or 10, or 12-lauryl ethers (Brij series), polyhydroxyethylen-8-stearate (Myrj 45), polyhydroxyethylen-laurates, polyhydroxyethylen-oleates, polyethoxylated castor oil 40 (Cremophor EL), sorbitane-monoalkylates, sorbitane-monolaurate, acyl-N-methylglucamides, alkanoyl-N-methylglucamides, decanoyl-N-methylglucamide, dodecanoyl-N-methylglucamide, alkyl-sulphates, alkyl sulphate salts lauryl-sulphate, oleoyl-sulphate, sodium deoxycholate, sodium glycodeoxycholate, sodium oleate, sodium taurate, fatty acid salts, sodium elaidate, sodium linoleate, sodium laurate, lysophospholipids, n-octadecylene-glycerophosphatidic acid, octadecylene-phosphorylglycerol, octadecylene-phosphorylserine, n-acyl-glycero-phosphatidic acids, lauryl glycero-phosphatidic acids, oleoyl-glycero-phosphatidic acid, n-acyl-phosphorylglycerol, lauryl-phosphorylglycerol, oleoyl-phosphorylglycerol, n-acyl-phosphorylserine, lauryl-phosphorylserine, oleoyl-phosphorylserine, n-tetradecyl-glycero-phosphatidic acid, n-tetradecyl-phosphorylglycerol, n-tetradecyl-phosphorylserine, corresponding palmitoeloyl-, elaidoyl-, vaccenyl-lysophospholipids, and surface-active polypeptides.

218. (Previously presented) The method of claim 215 wherein the at least one first substance is a phosphatidylcholine and/or a phosphatidylglycerol, the at least one second substance is a monovalent salt of cholate, deoxycholate, glycocholate, glycodeoxycholate, and/or a Tween- surfactant, and the at least one third substance is insulin.

219. (Previously presented) The method of claim 215 wherein the third substance is a hormone.

220. (Previously presented) The method of claim 219 wherein the hormone is calcitonin.

221. (Previously presented) The method of claim 215 wherein the third substance is insulin selected from human recombinant insulin or humanized insulin.

222. (Previously presented) The method of claim 215 wherein the third substance is interleukin suitable for the use in humans or animals selected from the group comprising IL-2, IL-4, IL-8, IL-10, and IL-12.

223. (Previously presented) The method of claim 215 wherein the third substance is interferon selected from interferon alpha, beta and gamma.

224. (Previously presented) The method of claim 215 wherein the third substance is immunoglobulin (Ig) selected from IgA, IgG, IgE, IgD or IgM.